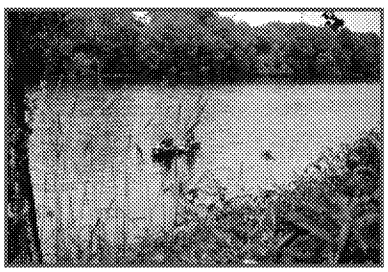
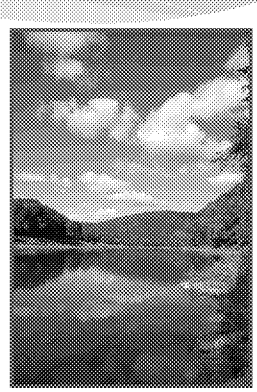
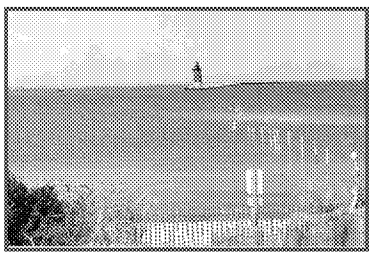
Delaware River Basin Commission

Implementation of the PCB TMDLs in the Delaware Estuary and Bay







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Point Source Requirements
Stage 1 TMDLs

- Implementation requirements focused on point sources. Requirements consisted of:
  - Monitoring using a sensitive analytical method (Method 1668A) for all 209 congeners.
  - Develop and implement a Pollutant Minimization Plan (PMP) to identify and reduce sources of PCBs.

Outline

- Data Quality Objectives
  - Sampling
  - Analysis (Method 1668A)
- Pollutant Minimization Plan (PMP)
  - Key Elements
  - Other Analytical Methods (for Trackback)
  - Effective Trackback Efforts
- Overall Results and Conclusions

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Standardized Data Quality Objectives

Reduce analytical uncertainty and improve comparability between samples by:

- Establishing sample collection and identification protocols
- Specifying DRBC project specific analytical (Method 1668A) and reporting protocols to achieve detection limits in the single pg/L range
- Establishing Method and Rinsate blank contamination acceptability criteria
- Incorporating all data into an Access database

Monitoring Resources http://www.nj.gov/drbc/quality/toxics/pcb.html

Benefits of Standardized Sampling and Analysis

- Greater accuracy in estimated loadings
  - Including fingerprinting and evaluation of trackback efforts
- Increased modeling accuracy
- More accurate long-term trends analysis
- Better temporal and spatial evaluation of data
- Data reliability and transferability

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Pollutant Minimization Plans (PMPs)
Initial Plan Elements

1. Good Faith Commitment
2. Facility and Contact Information
3. Facility Description
4. Known Sources
5. Potential Sources
6. Strategy for Identify Unknown Sources (Track-Down)
7. Previous Minimization Activities
8. Recommendation for Action Under Other Regulatory Programs
9. Pollutant Minimization Measures
10. Source Prioritization
11. Key Dates
12. Measuring, Demonstrating, and Reporting Progress
13. References

PMP Resources: http://www.nj.gov/drbc/programs/quality/pmp.html

PMP Review

- The Commission jump started the PMP process by requiring 42 discharges to develop initial PMPs beginning in 2005 using it own authority.
- Subsequent PMP requirements were incorporated into NPDES permits as were the continuation of existing PMPs originally required by the Commission.
- Initial PMP reviews were undertaken by Commission staff and subsequently by State representatives and if adequate, a completeness determination letter was issued and the PMP clock started

Preparation and Submission of a PMP Annual Report

Main Elements in the Annual Report:

1. PMP Achievement Executive Summary
2. Revisions to PMP
3. Material and Process Modifications
4. Measures to Address Known, Probable, and Potential Sources
5. Incremental and Cumulative changes from the baseline loading
6. Tabular Summary

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PMP Implementation Approaches

- Identify known PCB sources
  - Transformers and switches
  - Hydraulic fluids
  - lubricants, gasket sealers, paints, plasticizers, adhesives,
- Remove pathways for contaminated solids/capturing solids
  - Stormwater controls, geotextile filters
- Cleaning sediment from interceptors and pump stations
- Increasing solids removal from municipal/industrial discharges
- Identify potential inadvertent PCB production

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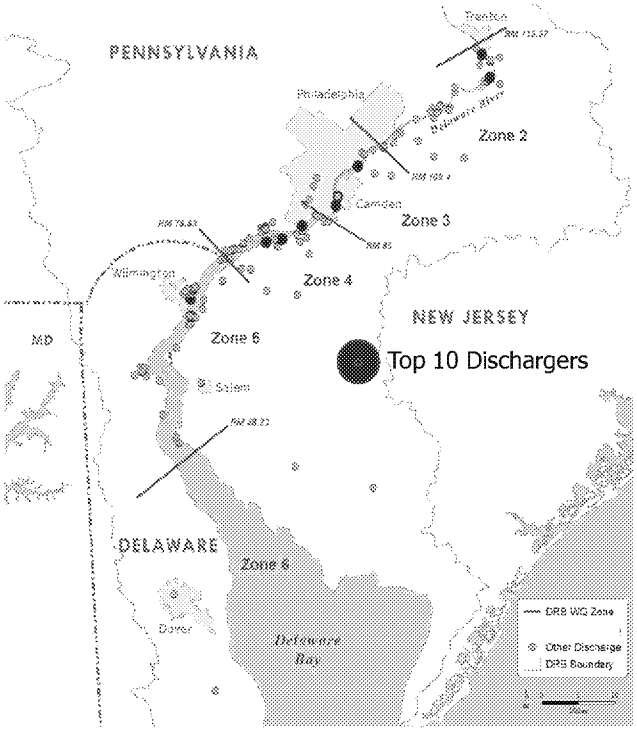
Trackback Approaches

- Develop strategy for collecting samples "upstream" of discharge to more accurately identify areas of concern
- Review pretreatment and residual program permits to identify potential sources of PCBs
- Identification of PCB contaminated sites using
  - EPA and State lists
- Use The North American Industry Classification System (NAICS) to identify potential sources
- Use Geographical Information System (GIS) approach to focus trackback efforts

Point Source Monitoring



Since 2005 monitoring using 1668A was required of all dischargers using a standardized approach

PMP development was required either through NPDES permits or directly through Commission regulations beginning in 2005

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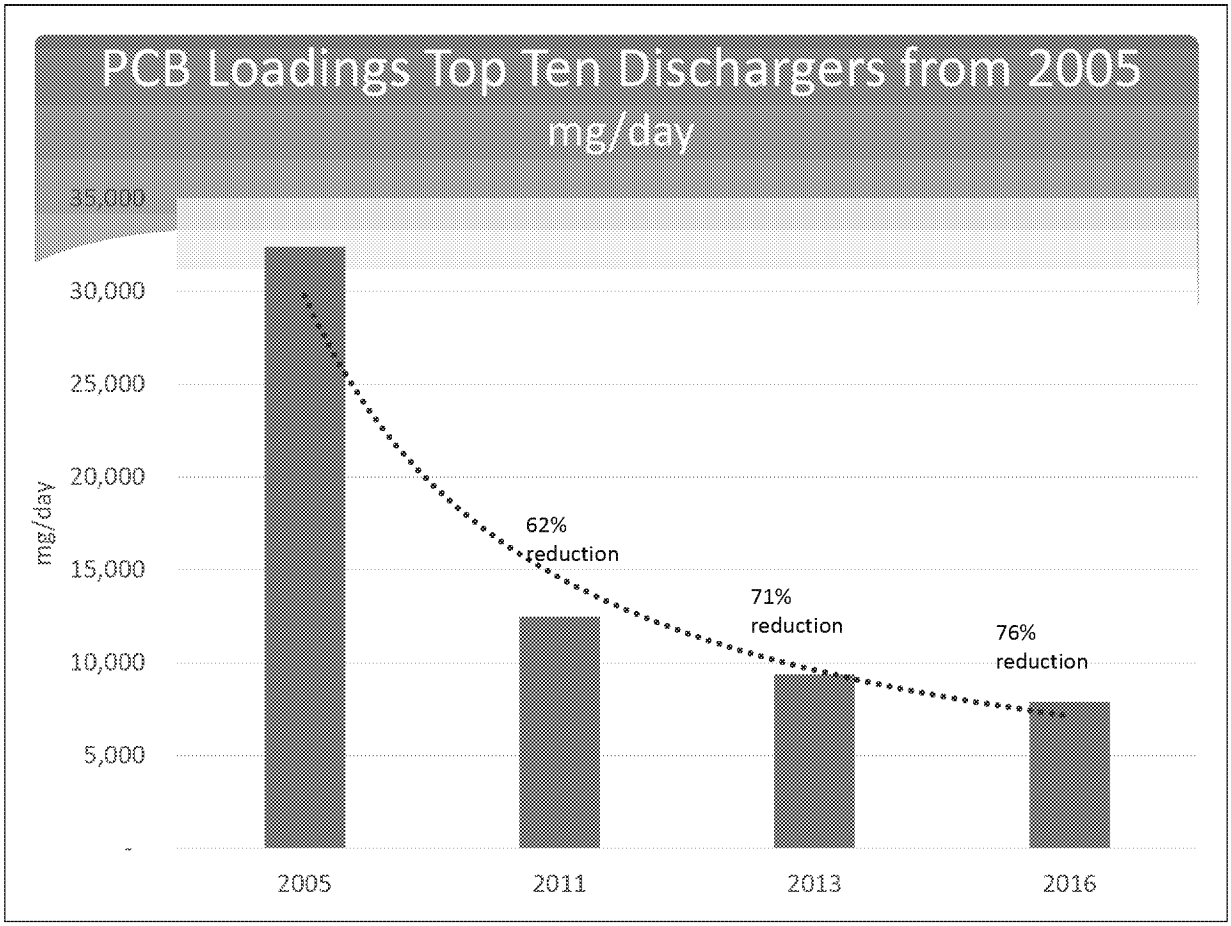
Top Ten PCB Point Source Loading Revisited

Top 90% of all P.S. Loadings (2005)	Loadings mg/day (2005)
Valero Refining	11,047
U.S. Steel	7,008
PWD-NE	4,049
PWD-SW	3,141
City of Wilmington	2,723
PWD-SE	1,431
Dupont-ChamberWorks	945
CCMUA	921
Trenton	664
Dupont-Repauno	463
Total	32,391


PCB Loadings Top Ten Dischargers from 2005
mg/day
35,000
30,000
25,000
20,000
15,000
10,000
5,000
-
mg/day
62%
reduction
71%
reduction
76%
reduction
2005
2011
2013
2016

Conclusions

- The Implementation of the PCB TMDL in the Delaware Estuary and Bay has been successful. Essential elements include:
  - Requiring consistent monitoring (Method 1668A) and reporting methodologies and a centralized database management system
  - Implementation of PMPs which provide a framework for evaluating PCB loadings and subsequent reductions by:
    - Identifying and removing active sources
    - Trackdown of legacy contamination and implementation of remedial measures
  - Review of annual reports and providing feedback to dischargers thereby fostering a environment of collaboration through open discussion and dissemination of information

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Questions?

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